

## OCCURRENCE AND RECORDS OF NITIDULIDAE

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(Concluded from Vol. 4, p. 91)

### 3. NITIDULIDAE AT FERMENTING ORANGES IN FLORIDA

The writer was stationed at New Smyrna Beach, Florida from March 2 to 10, 1943 during which time he had opportunity to search for Nitidulidae in fallen fruit beneath orange trees. Although the list of findings given below has little significance by itself, it has some value for comparison with findings in South Texas.

*Colopterus truncatus* Randall. Several specimens.

*Carpophilus (Urophorus) humeralis* (F). Common.

*Carpophilus dimidiatus* (F). The most abundant species.

*Carpophilus tempestivus*. Four specimens.

*Haptoncus luteolus* (Er.) Common.

*Stelidota strigosa* (Gyll.) Several specimens.

*Stelidota geminata* (Say). Frequent.

*Lobiopa insularis* (Cast.) Common.

### 4. NITIDULIDAE COLLECTED IN SOUTH TEXAS

During almost two years of collecting in the Lower Rio Grande Valley from January 1, 1946, through October 6, 1947, the writer made some observations on occurrence of Nitidulidae. This family is not as well represented in this region as in Maryland, judging by the mere 15 species collected.

Sapflows were not found, the trees and their borers and the climate of the region seeming to be unsuited for their production. But there were other likely habitats for Nitidulidae. Rotting citrus fruit and packing house and cannery wastes were plentiful and provided one of the main sources of these beetles, though it was poor in species. In clearings, under bark of fire-scorched nopal (*Opuntia Lindheimeri* Engelm.) and *Yucca treculeana* Carr. proved to be excellent for collecting a few species of

Nitidulidae and a great variety of other Cucujoidea, Histeridae, etc. Under bark of rather freshly cut and fire-scorched trees in clearings also provided very fruitful collecting of micro-Coleoptera with several species of sap beetles being included. Hackberry (*Celtis laevigata* Wild.), cedar elm (*Ulmus crassifolia* Nutt.), and mesquite (*Prosopis juliflora* (Swartz) DeCandolle) are the trees from which collections were made. Flowers provided the only other general source of Nitidulidae.

*Conotelus stenoides* Murray. Common the year round; fermenting citrus fruit, rotten watermelons, tomato cannery wastes, and under bark of fermenting fire-scorched yucca and nopal and freshly cut and fire-scorched hackberry, cedar elm, and mesquite; Cameron and Hidalgo counties.

*Conotelus mexicanus* Murray. Two specimens on March 2 from flower of a dew berry (*Rubus* sp.); four specimens on March 16 from flowers of *Abutilon indicum* L.; jungle at Southmost.

*Colopterus truncatus* (Randall). Occurs abundantly in same situations as and often together with *Conotelus stenoides* Murray. Under bark of a fermenting fire-scorched cedar elm the writer found concentrations of thousands of individuals of this species to the exclusion of almost all other insects.

*Carpophilus (Urophorus) humeralis* (F.). Common at rotting citrus fruit the year round. Also under bark of fermenting fire-scorched yucca and nopal. Hidalgo and Cameron counties.

*Carpophilus hemipterus* (L.). Frequent at fermenting citrus and under bark of fermenting logs of hackberry and mesquite; year round; Hidalgo and Cameron counties.

*Carpophilus pallipennis* (Say). Abundant during late March, April, and early May in flowers of nopal. Larvae were frequently found in closed and unopened flowers. Cameron, Hidalgo and Starr counties. Six specimens on flowers of ebony (*Pithecolobium flexicaulis* (Benth.) Web.) on May 1, 1946 at s.e. Hidalgo county. One specimen was taken in flower of *Rubus* sp. at Southmost on March 2.

*Carpophilus dimidiatus* (F.). Occurs the year round in abun-

dance with *Conotelus stenoides*. Also found in numbers on flowers of *Agave americana* L. in cultivation at Weslaco on June 8, and common at fallen fruit of yucca at Southmost during June and July.

*Carpophilus nitens* Fall. Numerous in tortilla factory waste at Pharr on March 19, 1946. A few *Carpophilus dimidiatus* occurred with it. Tortilla waste is dried corn that has been treated with lye and then ground.

*Carpophilus* sp. (near *brachypterus* Say). A single specimen found flying about "Richardson's fly rearing medium" inside insectary at Pharr, March 9.

*Carpophilus* sp. One specimen at light on August 27 at Pharr.

*Haptoncus luteolus* (Er.). Common under bark of fire-scorched yucca and at fermenting citrus fruit the year round. Cameron and Hidalgo counties. Also numerous at fallen fruit of yucca at Southmost during June and July.

*Stelidota strigosa* (Gyll.). At rotten citrus fruit and under bark of fire-scorched yucca; year round; Hidalgo and Cameron counties.

*Stelidota geminata* (Say). Common at rotten citrus fruit; year round; Hidalgo and Cameron counties.

*Lobiopa insularis* (Cast.). Common at fermenting citrus fruit; year round; Hidalgo and Cameron counties. Also in numbers at fallen fruit of Yucca at Southmost during June and July.

*Camptodes texana* Schffr. Common on various flowers; April 13 to November 30, possibly year round. In view of the tropical nature of this species and the interest in determining its life history, the writer cites his records in detail. Unusually abundant on flowers of nopal; April 13, 1947; West Cameron Co. Search for larvae in flowers without result. One in flower of *Solanum elaeagnifolium* Carr.; April 21, 1946; s. e. Hidalgo Co. Several from flowers of ebony (*Pithecolobium flexicaulis* (Benth.) Web.; May 1 to 2, 1946; s.e. Hidalgo Co. Two feeding in fruit of lote, *Condalia obtusifolia* (Hook.) Web.; May 11, 1946. Two on flowers of *Condalia obtusifolia* (Hook.) Web.; May 19, 1946; s.e. Hidal-

go Co. Several on flower of *Croton punctatus* Jacq.; May 25, 1946; Southmost. Common on flower buds of sunflower, *Helianthus* sp.; May 31, 1946; s.e. Hidalgo Co. One in flower of *Croton* sp.; June 1, 1946; s.w. Hidalgo Co. One; June 8 to 15, 1947; western Cameron Co. Two on huisache, *Acacia farnesiana* Willd.; June 29, 1946; Southmost. Abundant; August 20, 1947; w. Cameron Co. One; September 28, 1946; e. Cameron Co. Several on flowers of coma, *Bumelia celastrina* H.B.K.; November 2, 1946; w. Cameron Co. Two at dung of raccoon or opossum composed almost entirely of berries of *Condalia obovata* Hook.; November 2, 1946; w. Cameron Co. Unusually abundant on flowers of yellow-top, *Verbesina encelioides* (Cav.) B.&H.; November 30, 1946; e. Willacy Co.

##### 5. LITERATURE ON THE OCCURRENCE AND BIOLOGY OF NITIDULIDAE

Significant literature on the occurrence and biology of North American Nitidulidae is very limited, with only a few outstanding papers such as those of Murtfeldt (1903) and Forbes (1894) being known to the writer. A great number of European species have been the subject of close observation by many more authors. Here the writer wishes to list with brief commentary the outstanding papers known to him which deal with genera represented in the United States fauna. It is hoped these examples will stimulate coleopterists to make more observations and take more notes on the occurrence of their catches and to make more life history and ecological studies of our species.

Bagnall, Richard S. *Epuraea angustula* Er. and *Acrulia inflata* Gyll., coleopterous parasites on species of the Stephensian genus *Trypodendron*. Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle-upon-Tyne, ser. 2, vol. 1, pp. 416-420. 1907.

This paper presents no concrete evidence of *Epuraea angustula* Er. being predatory or parasitic upon the scolytid *Trypodendron*. The nitidulid more likely feeds upon fungi and/or fermenting juices characteristic of the ambrosia beetle galleries it inhabits.

Blatchley, W. S. Coleoptera known to occur in Indiana. The Nature Publishing Co., Indianapolis. [Nitidulidae: pp. 628-652.] 1910.

This well known work is a good source of records on this family.

Forbes, S. A. The banded Ips. 18th Rep. State Ent. Nox. Benef. Insects, Illinois, pp. 23-28, 1894.

The larva of *Glischrochilus fasciatus* (Oliv.) is described as a pest of kernels of seed corn planted in turned-under turnip fields. This author mentions Walsh in 1867 reporting extensive injury to ears of corn by this species and Packard in 1883 describing its occurrence in roots of squash. Forbes further reports the species as frequently following the corn earworm and other burrowing larvae into corn and other vegetables. It is also stated to be a pest of the pantry, adults infesting bread and other cooked foods.

Heikertinger, F. Untersuchungen über die Standpflanzen der Blüten-käfergattungen *Meligethes*, *Brachypterus*, and *Brachypterolus*. Ent. Blätter, vol. 16, pp. 126-143. 1920.

Host records are given for *Brachypterus glaber*, *B. urticae*, *Brachypterolus pulicarius*, and 36 species of European *Meligethes*.

Hervey, G. E. R. A European nitidulid, *Brachypterolus pulicarius* L. Journ. Econ. Ent., vol. 20, pp 809-814. 1927.

An extensive account of the occurrence of this species in the northeastern United States, where it was reported for the first time in 1920. Adults occur on various flowers and are injurious to strawberry blossoms. However, larvae develop only in *Linaria* (toad-flax).

Hinton, H. E. Beetles associated with stored products, vol. 1, pp. 78-111. British Museum, London. 1945.

Contains a fine compilation of information on biology and occurrence of economically important species of Nitidulidae, including the following United States species: *Urophorus humeralis* (F.), *Carpophilus marginellus* Mots., *C. hemipterus* (L.), *C. dimidiatus* (F.), *C. pallipennis* (Say), *Haptoncus luteolus* (Er.), *Omosita colon* (L.), *Nitidula rufipes* (L.), *N.*

*bipunctata* (L.), *N. carnaria* (Schal.), *Glischrochilus fasciatus* (Oliv.).

Hubbard, H. G. The inhabitants of a fungus. Canadian Ent., vol. 24, pp. 250-256. 1892.

Adults and immature forms of *Epuraea monogama* Cr. are reported as having been found on June 7 living in the fruiting bodies of *Cryptoporus* (*Polyporus*) *volvatus* Peck. var. *obvolutus* Peck. on dead pines in the region of the North Bend in the Fraser River Canyon of British Columbia.

Kleine, R. Die europäischen Borkenkäfer und ihre Feinde aus den Ordnungen Coleoptera und Hymenoptera, Ent. Blätter, vol. 4, pp. 205-208, 225-227. 1908. Vol. 5, pp. 41-50, 77-79, 120-122, 140-141. 1909.

The following Nitidulidae are listed as enemies of bark-beetles: *Epuraea angustula* Er., *E. laeviuscula* Gyll., *E. rufomarginata* Steph., *E. oblonga* Herbst., *E. suturalis* Reitt., *Nitidula obscura* Er., *Glischrochilus quadriguttatus* (F.), *quadripustulatus* Herbst., and *Pityophagus ferrugineus* L.

The writer can find no evidence in this paper that any of these species is predatory or parasitic on the barkbeetles. Probably in all except the *Pityophagus*, *Epuraea angustula*, *E. laeviuscula*, and *E. rufomarginata*, their occurrence in bark-beetle galleries is incidental, though, as Kleine points out, their mere presence in the galleries very probably interferes with the hosts. Thus Kleine's designation of all these nitidulids as enemies is questionable.

Knowlton, G. F. Nitidulidae in corn. Journ. Econ. Ent., vol. 35, p. 105. 1942.

*Urophorus humeralis* (F.), *Carpophilus lugubris* Murr., and *Glischrochilus quadrisignatus* (Say) are reported as extensively infesting corn ears in Utah.

Moennich, H. List of Coleop. found living in and on various fungi. Bull. Brooklyn Ent. Soc., vol. 34, pp. 155-157. 1939. Vol. 36, pp. 113-122. 1941.

Four species of Nitidulidae are reported identified fungi. Murtfeldt, M. E. Another yucca-feeding insect. Ent. News, vol. 14, pp. 293-295. 1903.

Larvae of *Carpophilus melanopterus* Er. in the course of development extensively mine the segments of the perianth of *Yucca filamentosa* L. and enter the soil to pupate during June. Pupation takes place by the end of June, and adults develop within three weeks but do not emerge from soil until following spring. If beetles are removed from earthen pupal cells, they rebury themselves.

Ormerod, E. A. Life history of *Meligethes*. Ent. Mo. Mag., vol. 11, pp. 46-52. 1874.

Larvae of *Meligethes aeneus* develops in buds and particularly in partially opened flowers of turnip and rape, infested parts being distinguished by shriveled and stunted appearance. Pupation takes place in soil, and eggs are laid in flowers.

There are several other European papers devoted to the life history of this species which is a pest of crucifers in that part of the world.

Peyerimhof, P. de. Ethologie des *Brachyleptus* et notamment de *B. algericus* Grouv. Bull. Soc. Ent. France, 1921, pp. 281-285.

This genus does not occur in the United States, but the author in a footnote of this paper mentions the remarkable adaptations found in *Epuraea*, that is, in *E. angustula* Er., *E. laeviuscula* Gyll., and *E. rufomarginata* which live in galleries of Scolytids and there are nourished in company with the wood borers and their larvae on the fungal "ambrosia."

Scheerpeltz, O. and Höfler, K. Käfer und Pilze. 351 pp., 19 pl. 1947. Verlag für Jugend und Volk, Vienna.

This commendable little book includes detailed records of the occurrence of eight species of Nitidulidae fungi in the forests about Vienna, Austria.

Scott, Hugh. Notes on the biologies of some inquilines and parasites in a nest of *Bombus derhamellus* Kirby, with descriptions of larva and pupa of *Epuraea depressa* Ill. Trans. Ent. Soc. London, 1920, pp. 99-127.

*E. depressa*, which occurs in the United States and which occurs commonly on flowers in the spring in England, develops as larvae and lives much of its adult life in the nests of bumblebees. Examination of gut contents of the larvae revealed min-

eral particles, spores, and vegetable fragments considered to be hyphae of fungi, indicating that the insects are scavengers about the nest. Several other European papers report similar findings as well as records of nests of other species of *Bombus* being infested.

Smith, J. B. Annual Report of the N. J. State Museum, including a Rept. of the Insects of N. J. 1909.

This work includes an extensive set of records of occurrence of Nitidulidae. Those from pine sap and from under bark of pine stumps are amazing to the writer who hopes someone will find substantiative evidence of such occurrence.

Wasmann, E. Zur Biologie einiger Ameisengäste. Deutsche Ent. Zeitschr., vol. 36 pp. 347-351. 1892.

In this paper *Amphotis marginata* F. is considered a true guest Trophallaxis between *Lasius* (*Formica*) *fuliginosus* (L.) and this nitidulid and attempted protection of the beetle by the ants are described.

Weiss, H. B. and West, E. 1920-1922. Fungous insects and their hosts. Proc. Biol. Soc. Washington, vol. 33, pp. 1-20. 1920. Vol. 34, pp. 59-62, 85-88, 167-172. 1921. Canadian Ent., vol. 54, pp. 198-199. 1922.

This very desirable paper lists many species of Nitidulidae, mostly from New Jersey, from numerous identified fungi.

Wilson, G. F. Insect visitors to sap exudations of trees. Trans. Ent. Soc. London, vol. 74, pp. 243-253, 3 pls., 1 fig. 1926.

In his discussion of sap exudations or slime fluxes, this author gives a review of the literature on their nature and causes. A few nitidulid visitors are mentioned.

### PLANS FOR THE SOCIETY

With the 1950 increase in the dues of the society, the Coleopterists' Bulletin is now able to meet its expenses, at the present level of printing costs. We are not yet able to meet the costs of a commercial printer, however. (Much of the work of producing the Bulletin, such as folding, assembling, stapling, and trimming, is done by the Washington members.) It is our hope that by next year we will be able to have the entire job done by a commercial



printer. This will only be possible if we can increase the membership.

To do this we will need the help of every member. The first step is to invite all those who are interested in beetles to join the society. You can help in this by urging coleopterists to join or by sending to the Manager the names and addresses of prospective members. Additional library subscriptions would be equally helpful.

R. H. A., *Manager*

### A NOTE ON "PASSALUS CORNUTUS FABRICIUS" (PASSALIDAE)

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It is surprising to find that some modern American authors still use the name *Passalus cornutus* for the well-known horned passalid of the United States. It may be useful therefore to point out why its correct name is *Popilius disjunctus* (Illiger, 1800).

The genus *Popilius* Kaup, it should be realized, belongs to the subfamily Pseudacanthinae, which is very distinct from the Passalinae including the genus *Passalus*, so that the present use of the old name for the horned passalid is a misleading anachronism. The error dates back to Kaup who, in 1868, published a Prodrömus to a monograph of the family wherein he first dismembered the old 'omnibus' genus *Passalus*. He included *cornutus* and other species in his restricted genus *Passalus*. Subsequently, in his Monograph of 1871 Kaup further restricted *Passalus* transferring some species to a new genus *Popilius* and several other genera, leaving *cornutus* and three further species in *Passalus*. Kuwert in his Monograph of 1897 also followed Kaup.

Both authors however had overlooked the fact that long before them the old writers on *Passalus* had clearly recognized the fact that its typical species was (*Lucanus*) *interruptus* Linnaeus, a widely distributed tropical American species. Thus the genus *Neleus*, established by Kaup and also used by Kuwert for *interruptus* and its immediate allies, became a synonym of